APPENDIX B TO SUBPART A OF PART 327—CONVERSION OF SCORECARD MEASURES INTO SCORE

1. Weighted Average CAMELS Rating

Weighted average CAMELS ratings between 1 and 3.5 are assigned a score between 25 and 100 according to the following equation:

$S = 25 + [(20/3) * (C^2 - 1)]$,

where:

S = the weighted average CAMELS score; and

C = the weighted average CAMELS rating.

2. Other Scorecard Measures

For certain scorecard measures, a lower ratio implies lower risk and a higher ratio implies higher risk. These measures include:

- Concentration measure;
- Credit quality measure;
- Market risk measure;
- Average short-term funding to average total assets ratio; and
- Potential losses to total domestic deposits ratio (loss severity measure).

For those measures, a value between the minimum and maximum cutoff values is converted linearly to a score between 0 and 100, according to the following formula:

$S = (V - \text{Min}) * 100/(\text{Max} - \text{Min})$,

where S is score (rounded to three decimal points), V is the value of the measure, Min is the minimum cutoff value and Max is the maximum cutoff value.

For other scorecard measures, a lower value represents higher risk and a higher value represents lower risk. These measures include:

- Tier 1 leverage ratio;
- Core earnings to average quarter-end total assets ratio;
- Core deposits to total liabilities ratio; and
- Balance sheet liquidity ratio.

For those measures, a value between the minimum and maximum cutoff values is converted linearly to a score between 0 and 100, according to the following formula:

$S = (\text{Max} - V) * 100/(\text{Max} - \text{Min})$,

where S is score (rounded to three decimal points), V is the value of the measure, Max is the maximum cutoff value and Min is the minimum cutoff value.

[76 FR 10720, Feb. 25, 2011]

APPENDIX C TO SUBPART A TO PART 327—CONCENTRATION MEASURES

The concentration score is the higher of the higher-risk assets to Tier 1 capital and reserves score or the growth-adjusted portfolio concentrations score. The concentration score for highly complex institutions is the highest of the higher-risk assets to Tier 1 capital and reserves score, the Top 20 counterparty exposure to Tier 1 capital and reserves score, or the largest counterparty to Tier 1 capital and reserves score. The higher-risk assets to Tier 1 capital and reserve ratio and the growth-adjusted portfolio concentration measure are described below.

A. Higher-Risk Assets/Tier 1 Capital and Reserves

The higher-risk assets to Tier 1 capital and reserves ratio is the sum of the concentrations in each of four risk areas described below and is calculated as:

$$H_i = \sum_{k=1}^{4} \left(\frac{\text{Amount of Exposure}_{i,k}}{\text{Tier 1 Capital} + \text{Reserves}_i} \right)$$

where:

H is institution i's higher-risk concentration measure and

k is a risk area.[1] The four risk areas (k) are defined as:

- Construction and land development loans (funded and unfunded);
- Leveraged loans (funded and unfunded);[2]
- Nontraditional mortgage loans; and
- Subprime consumer loans.[3]

The risk areas are defined according to the interagency guidance for a given product with specific modifications made to minimize reporting discrepancies. The definitions for each risk area are as follows:

1. *Construction and Land Development Loans:* Construction and development loans include construction and land development

[1] The high-risk concentration ratio is rounded to two decimal points.

[2] Unfunded amounts include irrevocable and revocable commitments.

[3] Each loan concentration category should include purchased credit impaired loans and should exclude the amount recoverable from the U.S. government, its agencies, or government-sponsored agencies, under guarantee or insurance provisions.

loans outstanding and unfunded commitments.

2. *Leveraged Loans*: Leveraged loans include: (1) All commercial loans (funded and unfunded) with an original amount greater than $1 million that meet any one of the conditions below at either origination or renewal, except real estate loans; (2) securities issued by commercial borrowers that meet any one of the conditions below at either origination or renewal, except securities classified as trading book; and (3) and securitizations that are more than 50 percent collateralized by assets that meet any one of the conditions below at either origination or renewal, except securities classified as trading book.[4] [5]

• Loans or securities where borrower's total or senior debt to trailing twelve-month EBITDA[6] (i.e. operating leverage ratio) is greater than 4 or 3 times, respectively. For purposes of this calculation, the only permitted EBITDA adjustments are those adjustments specifically permitted for that borrower in its credit agreement; or

• Loans or securities that are designated as highly leveraged transactions (HLT) by syndication agent.[7]

3. *Nontraditional Mortgage Loans:* Nontraditional mortgage loans includes all residential loan products that allow the borrower to defer repayment of principal or interest and includes all interest-only products, teaser rate mortgages, and negative amortizing mortgages, with the exception of home equity lines of credit (HELOCs) or reverse mortgages.[8] [9] [10]

For purposes of the higher-risk concentration ratio, nontraditional mortgage loans include securitizations where more than 50 percent of the assets backing the securitization meet one or more of the preceding criteria for nontraditional mortgage loans, with the exception of those securities classified as trading book.

4. *Subprime Loans:* Subprime loans include loans made to borrowers that display one or more of the following credit risk characteristics (excluding subprime loans that are previously included as nontraditional mortgage loans) at origination or upon refinancing, whichever is more recent.

• Two or more 30-day delinquencies in the last 12 months, or one or more 60-day delinquencies in the last 24 months;

• Judgment, foreclosure, repossession, or charge-off in the prior 24 months;

• Bankruptcy in the last 5 years; or

• Debt service-to-income ratio of 50 percent or greater, or otherwise limited ability to cover family living expenses after deducting total monthly debt-service requirements from monthly income.[11]

Subprime loans also include loans identified by an insured depository institution as subprime loans based upon similar borrower characteristics and securitizations where more than 50 percent of assets backing the securitization meet one or more of the preceding criteria for subprime loans, excluding those securities classified as trading book.

B. Growth-Adjusted Portfolio Concentration Measure

The growth-adjusted concentration measure is the sum of the concentration ratio for each of seven portfolios, adjusted for risk weights and growth. The product of the risk weight and the concentration ratio for each portfolio is first squared and then multiplied

[4] The following guidelines should be used to determine the ''original amount'' of a loan:

(1) For loans drawn down under lines of credit or loan commitments, the ''original amount'' of the loan is the size of the line of credit or loan commitment when the line of credit or loan commitment was most recently approved, extended, or renewed prior to the report date. However, if the amount currently outstanding as of the report date exceeds this size, the ''original amount'' is the amount currently outstanding on the report date.

(2) For loan participations and syndications, the ''original amount'' of the loan participation or syndication is the entire amount of the credit originated by the lead lender.

(3) For all other loans, the ''original amount'' is the total amount of the loan at origination or the amount currently outstanding as of the report date, whichever is larger.

[5] Leveraged loans criteria are consistent with guidance issued by the Office of the Comptroller of the Currency in its Comptroller's Handbook, *http://www.occ.gov/static/publications/handbook/LeveragedLending.pdf*, but do not include all of the criteria in the handbook.

[6] Earnings before interest, taxes, depreciation, and amortization.

[7] *http://www.fdic.gov/news/news/press/2001/pr2801.html*.

[8] For purposes of this rule making, a teaser-rate mortgage loan is defined as a mortgage with a discounted initial rate where the lender offers a lower rate and lower payments for part of the mortgage term.

[9] *http://www.fdic.gov/regulations/laws/federal/2006/06noticeFINAL.html*.

[10] A mortgage loan is no longer considered a nontraditional mortgage once the teaser rate has expired. An interest only loan is no longer considered nontraditional once the loan begins to amortize.

[11] *http://www.fdic.gov/news/news/press/2001/pr0901a.html;* however, the definition in the text above excludes any reference to FICO or other credit bureau scores.

by the growth factor for each. The measure is calculated as:

$$N_i = \sum_{k=1}^{7}\left[w_k * \left(\frac{\text{Amount of exposure}_{i,k}}{\text{Tier 1 Capital} + \text{Reserves}_i} \right) \right]^2 * g_k$$

where:

N is institution *i*'s growth-adjusted portfolio concentration measure;[12]

k is a portfolio;

g is a growth factor for institution i's portfolio k; and,

w is a risk weight for portfolio *k*.

The seven portfolios (k) are defined based on the Call Report/TFR data and they are:

- Construction and land development loans;
- Other commercial real estate loans;
- First-lien residential mortgages and non-agency residential mortgage-backed securities (excludes CMOs, REMICS, CMO and REMIC residuals, and stripped MBS issued by non-U.S. Government issuers for which the collateral consists of MBS issued or guaranteed by U.S. government agencies);
- Closed-end junior liens and home equity lines of credit (HELOCs);
- Commercial and industrial loans;
- Credit card loans; and
- Other consumer loans.[13] [14]

The growth factor, g, is based on a three-year merger-adjusted growth rate for a given portfolio; g ranges from 1 to 1.2 where a 20 percent growth rate equals a factor of 1 and an 80 percent growth rate equals a factor of 1.2.[15] For growth rates less than 20 percent, g is 1; for growth rates greater than 80 percent, g is 1.2. For growth rates between 20 percent and 80 percent, the growth factor is calculated as:

$$g_{i,k} = 1 + \left[\frac{1}{3}\left(G_{i,k} - 0.20 \right) \right]$$

$$\text{where } G_{i,k} = \frac{V_{i,k,t}}{V_{i,k,t-12}} - 1, \text{ V is the portfolio amount as reported on the Call Report or TFR}$$

The risk weight for each portfolio reflects relative peak loss rates for banks at the 90th percentile during the 1990–2009 period.[16] These loss rates were converted into equivalent risk weights as shown in Table C.1.

[12] The growth-adjusted portfolio concentration measure is rounded to two decimal points.

[13] All loan concentrations should include the fair value of purchased credit impaired loans.

[14] Each loan concentration category should exclude the amount of loans recoverable from the U.S. government, its agencies, or government-sponsored agencies, under guarantee or insurance provisions.

[15] The growth factor is rounded to two decimal points.

[16] The risk weights are based on loss rates for each portfolio relative to the loss rate for C&I loans, which is given a risk weight of 1. The peak loss rates were derived as follows. The loss rate for each loan category for each bank with over $5 billion in total assets was calculated for each of the last twenty calendar years (1990–2009). The highest value of the 90th percentile of each loan category over the twenty year period was selected as the peak loss rate.

TABLE C.1—90TH PERCENTILE ANNUAL LOSS RATES FOR 1990–2009 PERIOD AND CORRESPONDING RISK WEIGHTS

Portfolio	Loss rates (90th percentile) (percent)	Risk weights
First-Lien Mortgages	2.3	0.5
Second/Junior Lien Mortgages	4.6	0.9
Commercial and Industrial (C&I) Loans	5.0	1.0
Construction and Development (C&D) Loans	15.0	3.0
Commercial Real Estate Loans, excluding C&D	4.3	0.9
Credit Card Loans	11.8	2.4
Other Consumer Loans	5.9	1.2

[76 FR 10720, Feb. 25, 2011]

APPENDIX D TO SUBPART A OF PART 327—DESCRIPTION OF THE LOSS SEVERITY MEASURE

The loss severity measure applies a standardized set of assumptions to an institution's balance sheet to measure possible losses to the FDIC in the event of an institution's failure. To determine an institution's loss severity rate, the FDIC first applies assumptions about uninsured deposit and other unsecured liability runoff, and growth in insured deposits, to adjust the size and composition of the institution's liabilities. Assets are then reduced to match any reduction in liabilities.[1] The institution's asset values are then further reduced so that the Tier 1 leverage ratio reaches 2 percent.[2] In both cases, assets are adjusted pro rata to preserve the institution's asset composition. Assumptions regarding loss rates at failure for a given asset category and the extent of secured liabilities are then applied to estimated assets and liabilities at failure to determine whether the institution has enough unencumbered assets to cover domestic deposits. Any projected shortfall is divided by current domestic deposits to obtain an end-of-period loss severity ratio. The loss severity measure is an average loss severity ratio for the three most recent quarters of data available.

Runoff and Capital Adjustment Assumptions

Table D.1 contains run-off assumptions.

TABLE D.1—RUNOFF RATE ASSUMPTIONS

Liability type	Runoff rate * (percent)
Insured Deposits	(10)
Uninsured Deposits	58
Foreign Deposits	80
Federal Funds Purchased	100
Repurchase Agreements	75
Trading Liabilities	50
Unsecured Borrowings <= 1 Year	75
Secured Borrowings <= 1 Year	25
Subordinated Debt and Limited Liability Preferred Stock	15

* A negative rate implies growth.

Given the resulting total liabilities after runoff, assets are then reduced pro rata to preserve the relative amount of assets in each of the following asset categories and to achieve a Tier 1 leverage ratio of 2 percent:

- Cash and Interest Bearing Balances;
- Trading Account Assets;
- Federal Funds Sold and Repurchase Agreements;
- Treasury and Agency Securities;
- Municipal Securities;
- Other Securities;
- Construction and Development Loans;
- Nonresidential Real Estate Loans;
- Multifamily Real Estate Loans;

[1] In most cases, the model would yield reductions in liabilities and assets prior to failure. Exceptions may occur for institutions primarily funded through insured deposits, which the model assumes to grow prior to failure.

[2] Of course, in reality, runoff and capital declines occur more or less simultaneously as an institution approaches failure. The loss severity measure assumptions simplify this process for ease of modeling.